

A3 sub B1
methyldimethoxysilane and methyldiethoxysilane; and the secondary methallylamine is selected from the group consisting of N-ethylmethallylamine, N-phenylmethallylamine, and dimethallylamine.

REMARKS

The specification has been objected to on the ground that the recited applications referred to therein have not been updated.

Applicants have amended the specification at the two places indicated in the Official Action wherein application numbers have been recited. That is, the paragraphs which encompasses Page 1, line 22 and Page 8, line 22 have been revised to replace the recitation of the applications recited therein with the patents that issued from those applications. It is emphasized that the first recited application, Serial No. 09/377,802 was the parent of c-i-p patent application, Serial No. 09/427,829, which issued as U.S. Patent 6,197,912. U.S. patent application, Serial No. 09/481,144, mentioned on Page 8 of the specification, issued as U.S. Patent 6,166,238.

All the claims submitted for examination in this application have been rejected on formal and/or substantive grounds. Applicants have amended their claims and respectfully submit that all the claims currently in this application are patentable over the rejection of record.

Turning first to the formal ground of rejection, Claims 2 and 3 stand rejected, under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the formula of the secondary methallylamine recites a carbon atoms having five bonds. Obviously, this is an error. The mistake included therein is the inclusion of an extra hydrogen atom that does not belong therein. Amended Claim 1 recites the proper secondary methallylamine. This proper

methallylamine is identical to Formula II, which appears at Page 4 of the instant specification. As such, the amendment to Claim 2 adds no new matter to the application. Rather, that amendment merely overcomes the indefiniteness rejection of record.

The second basis for indefiniteness is the recitation in Claim 3 that U represents a terminally unsaturated hydrocarbon radical. Since U, if present, is an alkylene group, it would not have any unsaturation. Applicants have amended Claim 3 to delete this recitation, which prompted this ground of rejection. Insofar as Claim 3 depends from Claim 2 and Claim 2 clearly defines the meaning of U, the amendment to Claim 3 overcomes the indefiniteness rejection of record and removes any ambiguity in regard to the meaning of U.

Two substantive grounds of rejection have been imposed in the outstanding Official Action. The first of these is directed to all the claims currently in this application, Claims 1-12. Claims 10-12 stand rejected, under 35 U.S.C. §102(e), as being anticipated by U.S. Patent 6,197,912 to Huang et al.

Without going into the details of the disclosure in Huang et al. it is sufficient to state that the Official Action admits that the anticipation rejection under 35 U.S.C. §102(e) could be overcome by a showing under 37 C.F.R. §1.131. Applicants have availed themselves of that option and enclose herewith a Declaration under 37 C.F.R. §1.131 establishing that the invention of the present application was reduced to practice prior to the earliest effective filing date of Huang et al., August 20, 1999. Applicants submit that with the filing of the enclosed Declaration under 37 C.F.R. §1.131, the rejection under 35 U.S.C. §102(e) is overcome.

The second substantive ground of rejection is directed to Claims 1-7 and 12. Claims 1-7 and 12 stand rejected, under 35 U.S.C. §102(b), as anticipated by or, in the alternative, under 35 U.S.C. §103(a), as being obvious over U.S. Patent 4,888,436 to Shiozawa et al.

This second ground of rejection is predicated upon the Shiozawa et al. teaching of reacting a methallylamine with a hydridoalkoxysilane when, in Formula I, R^2 is methyl and R^1 is alkyl. Although the Official Action admits that Shiozawa et al. does not specifically disclose the use of secondary methallylamines, the Official Action argues that the disclosure in Shiozawa et al. clearly contemplates secondary amines. The Official Action admits, however, that Shiozawa et al. is exclusively limited to the presence of a rhodium hydrosilation catalyst. Suffice it to say, the Official Action alleges that the limitations of dependent Claims 2, 3, 5-7 and 12 are disclosed by Shiozawa et al.

It is irrelevant whether or not the Shiozawa et al. patent specifically discloses secondary methallylamines. This is so insofar as Claim 1, from which Claims 2-7 and 12 ultimately depend, has been amended to limit the hydrosilation catalyst to a platinum hydrosilation catalyst. The Official Action admits that Shiozawa et al. is limited exclusively to rhodium hydrosilation catalysts. The amendment to Claim 1, wherein the hydrosilation catalyst is limited exclusively to a platinum catalyst, clearly establishes novelty of Claims 1-7 and 12, all the claims subject to this ground of rejection.

Those skilled in the art are aware of the well established unpredictability regarding catalysts. That is, there is no equivalency between catalysts used for the same purpose. Indeed, the large number of patents issued for different catalysts, including noble metal catalysts, utilized to produce the same result is well established in the art. Thus, although original recited Claim 1 may be anticipated or, in the alternative, made obvious by Shiozawa

et al., given the absence of any limitation of the identity of the hydrosilation catalyst, the amendment to Claim 1, wherein the hydrosilation catalyst is limited to a platinum hydrosilation catalyst, not only establishes novelty over Shiozawa et al. but also establishes unobviousness of that claim and the claims depending therefrom. This non-equivalency of noble metal catalysts is predicated on the differences in the selectivity and productivity of rhodium and platinum catalysts.

The aforementioned amendment to Claim 1 makes redundant the limitation in Claim 4 wherein the hydrosilation catalyst is recited to be a platinum hydrosilation catalyst. That limitation has thus been deleted from Claim 4.

The enclosed Declaration, amendment and remarks establish the patentable nature of all the claims currently in this application. Notice of Allowance and passage to issue of these claims, Claims 1-12, is therefore respectfully solicited.

Respectfully submitted,



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APPENDIX

Rendition of Amendment Showing Changes Made to the Application

IN THE SPECIFICATION:

Replace the paragraph at Page 1, lines 16-22 with the following paragraph:

Secondary aminoisobutylalkoxysilanes have long been accessible by various chemical approaches, and have recently demonstrated commercially useful performance in polyurethane sealants by providing crosslinking sites for alkoxysilane-functional polyurthanes (see EP 676,403 and U.S. Patent 6,197,912, [our copending applications Serial No. 09/377,802 and 09/427 Wang and Waldman,] incorporated herein by reference). The preparation of such silanes has been achieved with some degree of complexity, however.

Replace the paragraph at Page 8, lines 20-23 with the following paragraph:

It appears that a methyl/alkoxy group exchange reaction, recently observed for other hydrosilations of methyldialkoxysilanes (see [copending application Serial No. 09/481,144,] U.S. Patent 6,166,238, Filipkowski et al., incorporated herein by reference), does not occur to a significant extent during hydrosilations of secondary methallyamines.

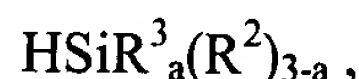
IN THE CLAIMS:

Claim 1 (Amended): A method of [for] preparing a secondary aminoisobutylalkoxysilane comprising hydrosilating a secondary methallylamine with a hydridoalkoxysilane in the presence of an effective amount of a platinum hydrosilation catalyst.

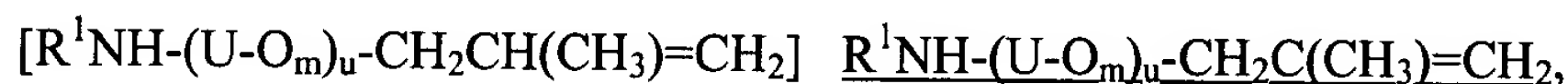
Claim 2 (Amended): The method of Claim 1 wherein the secondary aminoisobutylalkoxysilane is



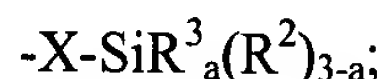
the hydridoalkoxysilane is



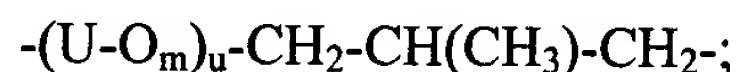
and the secondary methallylamine is



where R^1 represents an alkyl group having 1 to 30 carbon atoms, optionally interrupted with one or more ether oxygen atoms and/or substituted with a carbonyl oxygen atom, an aryl, alkaryl, or aralkyl group having 6 to 10 carbon atoms, or a group of the formula

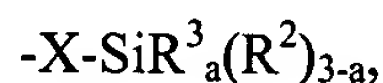


R^2 represents an alkoxy group having 1 to 6 carbon atoms or an aryloxy, alkaryloxy, or aralkoxy group having 6 to 10 carbons, R^3 represents an alkyl group of 1 to 6 carbon atoms and an aryl, alkaryl, or aralkyl group having 6 to 10 carbon atoms, a is 0, 1 or 2; U represents a divalent linear, cyclic or branched hydrocarbon group of 1-6 carbon atoms which may be optionally interrupted by one or more ether oxygen atoms and/or substituted with a carbonyl oxygen atom; m is 0 or 1; u is 0 or 1; T is



and X is an alkylene group of 3 to 11 carbon atoms or T .

Claim 3 (Amended): The method of Claim 2 wherein R^1 represents an alkyl group of 1 to 4 carbon atoms, an aryl group of 6 to 10 carbons, or a group of the formula



R² represents an alkoxy group of 1 to 3 carbon atoms, R³ represents an alkyl group of 1 to 4 carbon atoms, T represents a branched alkylene radical of 4 to 8 carbon atoms comprising at least an isobutyl group, [U represents a terminally unsaturated hydrocarbon group of 1 to 4 carbon atoms,] X represents an alkylene radical of 3 to 6 carbon atoms, or T, a is 0 or 1, and m is 0.

Claim 4 (Amended): The method of Claim 1 wherein the hydridoalkoxysilane is selected from the group consisting of trimethoxysilane, triethoxysilane, methyldimethoxysilane and methyldiethoxysilane; and the secondary methallylamine is selected from the group consisting of N-ethylmethallylamine, N-phenylmethallylamine, and dimethallylamine[; and the hydrosilation catalyst comprises platinum].